# INSTALLATION
## REPORT OF AUDIT

### F2007-0051-FDS000

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**Information Transport System
12th Flying Training Wing
Randolph AFB TX**

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## South Central Area Audit Office
## 20 July 2007

**INTRODUCTION**
The Information Transport System (ITS) provides war fighters at fixed Air Force facilities throughout the world the means to exchange critical mission command and control information. The ITS is a subsystem of the Combat Information Transport System (CITS) and the fiber-optic backbone for carrying information over the installation network. The ITS connects core command and control facilities with a high speed, robust, high-bandwidth capability while supporting current and future infrastructure advancements. As of February 2007, the 12th Flying Training Wing (12 FTW) had ITS network infrastructure equipment with an estimated value over $2.46 million.

**OBJECTIVES**
We accomplished this centrally directed audit to determine whether the 12 FTW effectively and economically managed ITS network equipment. Specifically, we determined whether wing personnel:

- Effectively accounted for and controlled equipment.

- Effectively and economically contracted for equipment maintenance.

**CONCLUSIONS**
Overall, 12 FTW personnel could improve management of the Information Transport System. Specifically, the 12th Communications Squadron (12 CS) personnel did not:

- Effectively account for or control ITS equipment. As a result, over $71,000 of ITS equipment items were not accounted for, increasing the likelihood of loss or misappropriation. (Tab A, page 1)

- Effectively or economically contract for ITS network infrastructure equipment maintenance. As a result, $31,457 in maintenance costs related to duplicate contracts could be saved. (Tab B, page 3)

**MANAGEMENT CORRECTIVE ACTIONS**
During the audit, management took corrective action and established procedures to centralize ITS equipment accounts. The procedures require ITS account equipment custodians to conduct physical inventories and gather information on all network equipment on the base. (Tab A, page 2)
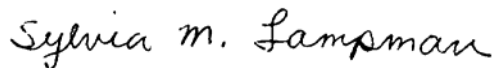
**RECOMMENDATIONS**
We made five recommendations to improve the management of ITS network equipment. (Reference the Tabs for specific

recommendations)

**MANAGEMENT'S
RESPONSE**

Management officials agreed with the audit results and
recommendations of this report.  The corrective actions taken or
planed are responsive to the issues and recommendations
included in this report.  Therefore, this report contains no
disagreements requiring elevation for resolution.


SYLVIA M. LAMPMAN
Team Chief, South Central Area Audit Office
(Team B, Randolph AFB)

PARTRICK M. FRAVEL
Chief, South Central Area Audit Office

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# BACKGROUND

Air Force Instruction 33-115, Volume 1, *Network Operations (NETOPS)*, 24 May 2006, requires the installation to take responsibility for ITS network equipment items when the installation Communications and Information System Officer completes and signs the AF Form 1261, Communication and Information Systems Acceptance Certificate. The Information Technology (IT) Hardware Accountability list[1] requires Asset Inventory Management (AIM) accountability of network infrastructure equipment (i.e., routers, switches, hubs and servers).

The Network Control Center (NCC), as the local area network manager, is the central focal point for the operation, maintenance, and management of all aspects of the base network. The communications squadron commander or equivalent should designate an equipment custodian, in writing, to account for all assigned ITS network infrastructure hardware assets.

## AUDIT RESULTS 1 – UNACCOUNTABLE NETWORK EQUIPMENT

**Condition.** The 12 CS network personnel did not properly account for or control ITS equipment. Specifically, network personnel did not document 19 (63 percent) of 30 judgmentally selected ITS network equipment items (valued over $71,000) in the AIM accountability system. Also, network personnel could not locate 1 of 30 randomly selected infrastructure items (valued at $604) during the inventory.

**Cause.** These conditions occurred because the 12 CS**:**

- Management did not establish procedures regarding accountability and control of ITS network infrastructure assets on the base.

- Personnel did not inventory ITS equipment items physically on hand but instead, only inventoried items that appeared on the inventory listing. Therefore, equipment items physically on hand, but not on the inventory listing, were never identified and entered into the AIM accountability system.

- Personnel did not manage all base ITS network equipment items. Specifically, some of the network equipment items were maintained on other organizations' equipment accounts.

**Impact.** Without adequate accountability and control, over $71,000 of equipment could be lost or misappropriated.

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[1] This list is the Air Force IT Hardware Asset AIM Accountable/Non-accountable Reference List and is maintained on the Air Force Portal (https://www.my.af.mil) within the Enterprise IT Initiatives section.

**Management Corrective Action.** During the audit, 12 CS management established procedures requiring base personnel to transfer all ITS network equipment to five accounts. These accounts will be managed by 12 CS personnel. Once the accounts are established, equipment custodians will be required to conduct physical inventories, visit every communication storage room, and gather information on all network equipment.

**Recommendations.** The 12th Communications Squadron Commander should direct 12 CS personnel to:

- Recommendation A.1. Implement the newly established procedures to transfer all base ITS network equipment to the 12 CS accounts, and conduct a physical inventory on all ITS network infrastructure equipment on base. The inventory should not be limited to just the inventory list, but should include all ITS network equipment on hand.

- Recommendation A.2. Record all ITS network equipment item data in the AIM accountability system.

**Management Comments.** The 12th Flying Training Wing Commander concurred with the audit result and recommendations and stated:

- Recommendation A.1. "Concur. The 12 CS has implemented procedures to account for all ITS equipment on the Randolph network, and has created four new accounts to cover four area divisions of the base. Equipment on the original account is being transferred to the new accounts, and the new equipment custodians are taking physical inventory of every communications closet in their respected areas, transferring equipment from other units to the new accounts or adding equipment the accounts that is considered 'found-on-base.' Estimated Completion Date: 31 August 2007."

- Recommendation A.2. "Concur. As new custodians inventory communications closets, documents will be provided to the base equipment custodian to add equipment to the respective accounts in the AIM database. Estimated Completion Date: 30 September 2007."

**Evaluation of Management Comments.** Management comments addressed the issues presented in this audit result, and actions taken and planned should correct the problems.

## BACKGROUND

The CITS Program Management Office established a CITS Logistics Support Contract (CLCS) to cover ITS equipment once the warranty period has expired.  This contract is a repair/replace as needed service and contract charges accrue when the Air Force uses the service; there is no continuous maintenance fee.  This contract includes post warranty support for all hardware and software (patches and updates) components which make up the ITS infrastructure, including CITS deployed components, components reused during an ITS implementation, and components performing a CITS mission.

Air Force Instruction 33-115, Volume 1, *Network Operation,* 24 May 2006, requires installation personnel to add backbone switches and routers that provide inter-building and Wide-Area-Network (WAN) connectivity to maintenance contracts to ensure current operating system and security patches are authorized.  An exception is made for those backbone switches and routers that are covered under existing Air Force contracts such as CLCS.

The Headquarters Air Education Training Command (HQ AETC) established a hardware, software and technical assistance service contract called Cisco SMARTNet Maintenance.  The contract requires the contractor to provide warranty coverage and critical software updates through Cisco's SMARTNet maintenance program.  Coverage should be provided for all Cisco brand equipment not covered by original vendor warranties, separate maintenance agreements, or equipment supporting the CITS.

## AUDIT RESULTS 2 – DUPLICATE MAINTENANCE COVERAGE

**Condition.**  The 12 CS personnel did not effectively or economically contract for ITS network infrastructure equipment maintenance.  Specifically**,** network personnel**:**

- Duplicated maintenance contract coverage for CITS equipment.  Of 60 equipment items reviewed, seven items were covered under both the CLCS and SMARTNet maintenance contract.

- Included 12 equipment items still under warranty on the CLCS maintenance contract (Table 1, page 4).

| Number Of Items | Serial Number | Coverage Under Both SMARTNet and CLCS Maintenance Contract Items | Under Warranty and CLCS Maintenance Contract | SMARTNet Maintenance Contract/Warranty Cost |
|---|---|---|---|---|
| 1 | 76014781 | 1 | 0 | $11,020 |
| 2 | 67506500 | 1 | 0 | $6,702 |
| 3 | FHK0716W1QH | 0 | 1 | $0 |
| 4 | FOC0801Z0C1 | 0 | 1 | $0 |
| 5 | FOX080304UT | 1 | 0 | $2,094 |
| 6 | JAE054000VR | 1 | 0 | $863 |
| 7 | FOX082302D6 | 1 | 0 | $1,999 |
| 8 | FAB0534M1GP | 0 | 1 | $0 |
| 9 | CAT0709X0EQ | 0 | 1 | $0 |
| 10 | FOC0805W18W | 0 | 1 | $0 |
| 11 | FHK0718Z01U | 0 | 1 | $0 |
| 12 | FAB0516S07G | 0 | 1 | $0 |
| 13 | 69013019 | 1 | 0 | $8,378 |
| 14 | FOC0930Z29J | 0 | 1 | $0 |
| 15 | FOX090400W9 | 1 | 0 | $401 |
| 16 | FHK0720Z09C | 0 | 1 | $0 |
| 17 | FHK0716X1Q4 | 0 | 1 | $0 |
| 18 | FHK0721Y0F2 | 0 | 1 | $0 |
| 19 | FAB0451N3J1 | 0 | 1 | $0 |
| Total | | 7 | 12 | $31,457 |

**Table1. Duplicate Maintenance Contract Coverage Items**

**Cause.** This occurred because the 12 CS did not have a local procedure or instruction requiring personnel to compare the CLCS list with the SMARTNet maintenance contract list, and to warranty information to make sure that equipment items were not covered by duplicate maintenance support contracts.[2]

**Impact.** An effective or economical contracting procedure for ITS network infrastructure equipment maintenance could save the government $31,457 in maintenance contract costs. In addition, the potential exists for the Air Force to pay for a repair/replacement when it should have been free under a warranty.

**Recommendations:** The 12th Communications Squadron Commander should direct 12 CS personnel:

- Recommendation B.1. Remove the seven equipment items from the current and next SMARTNet maintenance contract.

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[2] Although HQ AETC centralized the maintenance contract for AETC bases, 12 CS personnel provided both CLCS and SMARTNet maintenance contract lists for maintenance support coverage.

- Recommendation B.2. Evaluate the 12 items that are under warranty and make necessary changes to the CLCS contract list.

- Recommendation B.3. Establish and implement procedures requiring 12 CS personnel to periodically perform a comparison of the CLCS list with the SMARTNet maintenance contract list, and to warranty information. In addition, personnel should use the results of this analysis when the next contract list is submitted to HQ AETC.

**Management Comments.** The 12th Flying Training Wing Commander concurred with the audit result and recommendations and stated:

- Recommendation B.1. "Concur. The 12 CS has requested that AETC/A6PR have the seven identified items removed from the existing SMARTNet contract, to include the FY08 contract." (CLOSED)

- Recommendation B.2. "Concur. The 12 CS has evaluated the 12 items that are still under manufacture's warranty and on the CLCS contract. Each of these items is a mission critical network device, either because it is a building edge device or it provides network access to critical areas. Since the manufacture's warranty does not ensure timely repair/replacement, we must continue to utilize the CLCS contract to prevent critical network outages. Criticality of devices will be re-evaluated annually in preparation of new maintenance contracts." (CLOSED)

- Recommendation B.3. "Concur. The 12 CS will establish and implement procedures requiring an annual comparison of the CLCS list with the SMARTNet maintenance contract list, and to manufactures warranty information, prior to the AETC/A6 annual renewal of maintenance contracts. Estimated Completion Date: 31 August 2007."

**Evaluation of Management Comments.** Management comments addressed the issues presented in this audit result, and actions taken and planned should correct the problems.

## AUDIT SCOPE

**Audit Coverage.** We reviewed documents (e.g., packing lists, inventory listings, training records, Air Force Forms 1261, initial installed equipment listings, Standard Forms 1449, and the ITS account) dated from 20 March 1998 through 15 March 2007. We conducted this audit from 7 February to 17 April 2007, and issued management a draft report on 16 May 2007. To accomplish the audit objectives, we:

- Validated ITS network infrastructure equipment tracking procedures to determine whether base personnel established proper accountability and control over ITS network infrastructure equipment. In addition, we requested a download of the ITS account, conducted a physical inventory and verified the ITS equipment items inventoried were tracked in the AIM system.

- Obtained initially installed ITS equipment information to determine if any of the equipment had been replaced prior to warranties expiring to assess whether personnel effectively and economically contracted for ITS network infrastructure equipment maintenance. We also compared sample items with a list of network infrastructure equipment included in the SMARTNet maintenance contract, and ITS equipment items covered in the CLCS contract.

**Sampling Methodology.** We used random and judgmental sampling, and computer-assisted auditing tools and techniques (CAATTs) to perform our evaluation of Information Transport System Management.

- Sampling. We randomly selected 30 of 285 ITS network infrastructure equipment items to conduct a physical inventory. We also judgmentally selected an additional 30 ITS items located in the same rooms where we conducted our inventory for the random sample to verify if items were recorded in the AIM system.

- CAATTs. We used the Microsoft Excel "Match" function to analyze whether sample items were under multiple maintenance support coverage. We also used the "Sum," "Count if," and "Sum if" functions to summarize the data.

**Data Reliability.** Although we relied on computer-generated data from the Asset Inventory Management system to support audit conclusions, we did not evaluate the adequacy of the system's general and application controls. Instead, we evaluated data reliability through alternate methods such as physical inventory and reconciliations. These tests disclosed the data were sufficiently reliable to support the audit conclusions.

**Auditing Standards.** We accomplished audit work in accordance with generally accepted government auditing standards and, accordingly, included tests of internal controls as considered necessary under the circumstances. Specifically, we evaluated ITS tracking and accountability procedures, and maintenance contract process controls.

**Discussion with Responsible Officials.** We discussed/coordinated this report with the Network Control Center Chief, Network Management Chief, and other interested officials. We advised management this was part of an Air Force-wide evaluation of Information Transport System Management, Project F2006-FB4000-0068.000. Therefore, selected data not contained in this report, as well as data contained herein, may be included in a related Air Force report of audit. Management's formal comments were received on 9 July 2007 and are included in this report.

## PRIOR AUDIT COVERAGE

We did not identify any Air Force Audit Agency, DoD Inspector General, Government Accountability Office, or public accountant audit reports issued to the 12th Flying Training Wing within the last 5 years that related to our specific audit objectives.

## POINTS OF CONTACT

AFAA South Central Area Audit Office
2065 1st Street West, Suite 2
Randolph AFB, TX 78150-4352

       Mr. Patrick M. Fravel, Office Chief
       DSN 487-5068
       Commercial (210) 652-5068

       Ms. Sylvia M. Lampman, Team Chief

       Ms. L. Yali Clark, Auditor-in-Charge

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## PROJECT NUMBER

We accomplished this audit under project number F2006-FB4000-0068.012.

**FREEDOM OF INFORMATION ACT**

The disclosure/denial authority prescribed in AFPD 65-3 will make all decisions relative to the release of this report to the public.